**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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APPEAL BRIEF

Dear Sir:

Applicant submits, the following Appeal Brief pursuant to 37 C.F.R. § 41.37 for consideration by the Board of Patent Appeals and Interferences. Please charge any additional fees or credit any overpayment to our deposit Account No.02-2666. A duplicate copy of the Fee Transmittal is enclosed for this purpose.

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1/17/2008 HDESTA1 00000014 09499871

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FC:1251 510.00 OP
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## TABLE OF CONTENTS

## I. REAL PARTY IN INTEREST

The real party in interest is the assignee, Cisco Technology, Inc.

## II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to the appellants, the appellants' legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

## III. STATUS OF CLAIMS

Claims 1-50 of the present application are pending. The Applicant hereby appeals the rejection of claims 1-50.

## IV. STATUS OF AMENDMENTS

On May 16, 2007, Applicant filed a response to an Office Action dated February 16, 2007. The Examiner issued a Final Office Action on August 3, 2007. On November 5, 2007, the Applicant filed a Notice of Appeal in response to the Final Office Action. No amendments have been filed subsequent to the final rejection.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

1. Independent claims 1, 11, and 21:

Independent claim 1 recites, "An apparatus for re-routing user connections between first and second nodes in a network switch (Specification, page 5, lines 19-21; Figure 1, nodes 110, 120 and 140; Figure 2, 120), the apparatus comprising:

a loop-back path (Specification, page 6, lines 18-19; Figure 2, loop back path 210) to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection (Specification, page 6, lines 22-24; Figure 2, ports 222 and 224), the primary connection carrying the user connections during a normal mode (Specification, page 6, lines 13-14), the secondary connection not using network bandwidth during the normal mode (Specification, page 6, lines 1-2); and

a switching element (Specification, page 6, line7; Figure 2, switching element 220) coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection (Specification, page 6, lines 19-22)."

Independent claim 11 recites, "A method for re-routing connections between first and second nodes in a network switch (Specification, page 5, lines 19-21; Figure 1, nodes 120 and 140; Figure 4, process 400), the method comprising:

connecting the first and second nodes by a loop-back path (Specification, page 6, lines 18-19; Figure 2, loop back path 210; page 9, lines 12-14; Figure 4, block 410), the first node having a primary connection and a secondary connection (Specification, page 6, lines 22-24; Figure 2, ports 222 and 224), the primary connection carrying user connections during a normal mode (Specification, page 6, lines 13-14), the secondary connection not using network bandwidth during the normal mode (Specification, page 6, lines 1-2); and

connecting the loop-back path to the primary connection during the normal mode and to the secondary connection by a switching element (Specification, page 6, line7; Figure 2, switching element 220) when there is a failure condition at the primary connection (Specification, page 6, lines 19-22; page 9, lines 19-21; Figure 4, block 450)"

Independent claim 21 recites: "A computer program product comprising:

a computer storage medium (Specification, page 8, lines 18-27; Figure 3, mass storage device 350, re-route handler 230) having computer program code embodied therein for re-routing connections between first and second nodes in a network switch (Specification, page 5, lines 19-21; page 8, lines 6-9; Figure 1, nodes 120 and 140; Figure 4, process 400), the computer program product having:

computer readable program code for connecting the first and second nodes by a loop-back path (Specification, page 6, lines 18-19; Figure 2, loop back path 210; page 9, lines 12-14; Figure 4, block 410), the first node having a primary connection and a secondary connection (Specification, page 6, lines 22-24; Figure 2, ports 222 and 224), the primary connection carrying user connections during a normal mode (Specification, page 6, lines 13-14), the secondary connection not using network bandwidth during the normal mode (Specification, page 6, lines 1-2); and

computer readable program code for connecting the loop-back path to the primary connection during the normal mode and to the secondary connection by a switching element (Specification, page 6, line7; Figure 2, switching element 220) when there is a failure condition at the primary connection (Specification, page 6, lines 19-22; page 9, lines 19-21; Figure 4, block 450)."

Independent claim 31 recites: "A system (Specification, page 5, lines 6-7; Figure 1, system 100) comprising:

first and second nodes (Specification, page 5, lines 11-12; Figure 1, nodes 110 and 140; Figure 2, nodes 110 and 140) to carry user connections in a network switch; and

a circuit (Specification, page 5, lines 19-20, page 6, lines 5-6, VP loop back circuit; Figure 2, 120) coupled to the first and second nodes to re-route the user connections between first and second nodes (Specification, page 6, lines 8-10), the circuit comprising:

a loop-back path (Specification, page 6, lines 18-19; Figure 2, loop back path 210) to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection (Specification, page 6, lines 22-24; Figure 2, ports 222 and 224), the primary connection carrying the user connections during a normal mode (Specification, page 6, lines 13-14), the secondary connection not using network bandwidth during the normal mode (Specification, page 6, lines 1-2); and

a switching element (Specification, page 6, line7; Figure 2, switching element 220) coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection (Specification, page 6, lines 19-22)."

Independent claim 41 recites: "An apparatus for re-routing connections between first and second nodes in a network switch (Specification, page 5, lines 19-21; Figure 1, nodes 110, 120 and 140; Figure 2, 120), the apparatus comprising:

means for connecting the first and second nodes by a loop-back path (This is a means plus function recitation as permitted by 35 U.S.C. 112, paragraph 6. The structure described in the specification as corresponding to this "connecting the first and second nodes by a loop-back path" function is the virtual path loop back circuit labeled 120 in Fig. 1 and 2 and described on page 6, lines 5-10), the first node having a primary connection

and a secondary connection, the primary connection carrying user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

means for connecting the loop-back path to the primary connection (This is a means plus function recitation as permitted by 35 U.S.C. 112, paragraph 6. The structure described in the specification as corresponding to this "connecting the loop-back path to the primary connection" function is the switching element labeled 220 in Fig. 2 and described on page 6, lines 19-22) during the normal mode and to the secondary connection when there is a failure condition at the primary connection."

2. Dependent claims 2-10, 12-20, 22-30, 32-40, and 42-50:

Dependent claims 2, 12, 22, 32, and 42 recite in essence, "wherein the loop-back path is one of a physical connection and a logical connection (Specification, page 4, lines 9-10; page 6, lines 18-19)."

Dependent claims 3, 13, 23, 33, and 43 recite in essence, "wherein the failure condition is detected by a network monitor (Specification, page 4, lines 10-13); page 5, lines 16-18"

Dependent claims 4, 14, 24, 34, and 44 recite in essence, "a re-route handler (Specification, page 6, lines 26-27; Figure 2, re-route handler 230) coupled to switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection between the first and second nodes (Specification, page 7, lines 1-6; page 9, lines 17-21; Figure 4, blocks 440 and 450)."

Dependent claims 5, 15, 25, 35, and 45 recite in essence: "wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor (Specification, page 6, lines 19-22; page 7, lines 1-6."

Dependent claims 6, 16, 26, 36, and 46 recite in essence: "wherein the secondary connection does not carry user connections during the normal mode (Specification, page 4, lines 17-19; page 6, lines 1-2."

Dependent claims 7, 17, 27, 37, and 47 recite in essence "wherein the network switch is an asynchronous transfer mode (ATM) switch (Specification, page 4, lines 21-22; page 5, lines 9-10, lines 12-13; page 6, lines 24-25."

Dependent claims 8, 18, 28, 38, and 48 recite in essence "wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch (Specification, page 4, lines 21-22)."

Dependent claims 9, 19, 29, 39, and 49 recite in essence "wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure (Specification, page 4, lines 23-25; page 5, lines 16-18)."

Dependent claims 10, 20, 30, 40, and 50 recite in essence "wherein the primary and secondary connections have equal connection capacity (Specification, page 4, lines 19-20; page 6, lines 3-4)."

## VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 11, 2, 6-8, 11, 12, 16-18, 21, 22, 26-28, 31, 32, 36-38, 41, 42, and 46-48 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,272,107 issued to Rochberger et al. ("Rochberger").
2. Claims 3-5, 9, 10, 13-15, 19, 20, 23-25, 29, 30, 33-35, 39, 40, 43-45, 49, and 50 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rochberger.

## VII. ARGUMENTS

The Examiner rejected the claims 1, 2, 6-8, 11, 12, 16-18, 21, 22, 26-28, 31, 32, 36-38, 41-42, and 46-48 under 35 U.S.C. §102(e); and claims 3-5, 9, 10, 13-15, 19, 20, 23-25, 29, 30, 33-35, 39, 40, 43-45, 49, and 50 under 35 U.S.C. §103(a). Applicant respectfully traverses the rejections and submits that the Examiner has not met the burden of establishing a prima facie case of anticipation and obviousness.

### A. Claims 1, 2, 6-8, 11, 12, 16-18, 21, 22, 26-28, 31, 32, 36-38, 41-42, and 46-48 Are Not Anticipated by Rochberger.

In the Office Action, the Examiner rejected claims 1, 2, 6-8, 11, 12, 16-18, 21, 22, 26-28, 31, 32, 36-38, 41-42, and 46-48 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,627,107 issued to Rochberger ("Rochberger"). Applicant respectfully traverses the rejection and submits that the Examiner has not met the burden of establishing a prima facie case of anticipation.

Rochberger discloses a method of path restoration in an ATM network utilizing point to point switched virtual circuits. A source node sends a restore_setup message to a destination node (Rochberger, col. 14, lines 16-19). In response to this restore_setup message, the destination node configures its hardware for loopback operation (Rochberger, col. 14, lines 22-24). Then, the destination node sends a restore_confirm message to the source node (Rochberger, col. 14, lines 27-30). In response to the restore_confirm, the source node program its hardware to support loopback (Rochberger, col. 14, lines 38-40).

Rochberger does not disclose, either expressly or inherently, at least one of: (1) a loop-back path to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection, the primary connection carrying the user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and (2) a switching element coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

1. Rochberger does not disclose a loop back path:

Rochberger merely discloses that the Tx buffers are looped back to the Tx direction and the data that would be output to output port is looped back to the switching fabric, at a similar point as data input to the input port (Rochberger, col. 16, lines 16-19). Therefore, Rochberger does not disclose a loop back path which provide connectivity between the first and the second nodes.

In the Final Office Action, the Examiner contends that in Rochberger, when a link breaks, traffic is rerouted over the redundant path, and as a process of rerouting, the cells being transmitted from the end nodes are looped back to the end nodes (Rochberger, col. 15, 58-64). The Examiner concludes that the loop back path does provide connectivity between the first and the second nodes (Final Office Action, page 6, lines 8-12). Applicant respectfully disagrees for the following reasons.

First, in the scenario described in (Rochberger, col. 15, 58-64), the transit nodes #1 and #2 detect the break and immediately send an indication to the end nodes, i.e., the source node 14 and the destination node 20 (Rochberger, Figure 15) to reroute the traffic over the redundant path as represented by the dotted lines 290 and 292 (Rochberger, col. 15, lines 59-63). The cells being transmitted from the end nodes are looped back to the end nodes. In other words, the cells transmitted from the source node 14 are looped back to the source node 14, and the cells transmitted from the destination node 20 are looped back to the destination node 20. This does not indicate that there is a connectivity between the source node 14 and the destination node 20 via a loop-back path. Instead, there is only a redundant path via the transit nodes #3 and #4 (Rochberger, col. 10, lines 28-39; Figure 3, set up 42 and connect 40). The redundant path is at best similar to the secondary connection. It is not the same as a loop-back path.

Second, although the term "looped back" is used, this simply means that the cells are "returned back" to the end node. The path shown between the end node 14 and the transit node # 1 16, or the end node 29 and the transit node # 2 18, is external to the end node. It is not part of a virtual path loop back circuit in a node. In contrast, a loop back path is a path formed by loop back device or connection. A loop back path may be used for diagnosis. The following links provide background information regarding loop back.

http://networking.ringofsaturn.com/Cisco/loopbacktests.php

http://webopedia.internet.com/TERM/L/loopback_test.html

http://www.cisco.com/en/US/products/hw/switches/ps718/products_configuration_guide_chapter09186a00800f00ec.html#34212

http://en.wikipedia.org/wiki/Loopback_interface

http://www.cisco.com/warp/public/471/hard_loopback.html

http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/c1400/icg/trbshoot.htm

2. Rochberger does not disclose the secondary connection not using network bandwidth during the normal mode:

Rochberger explicitly discloses that both the primary path and the redundant path are used during a call. A first SVC call is set up over the primary path from the source user to the destination user (Rochberger, col. 11, lines 13-15). Next, a second SVC call is set up over the redundant (secondary) path from the source node to the destination node (Rochberger, col. 11, lines 17-20). The source and destination nodes then configure there

switch table to handle the redundant connection (Rochberger, col. 11, lines 20-22). Rochberger explicitly discloses that both the primary and the secondary paths are used in setting the call:

> Once the primary path call is established, the redundant call is setup. The source node generates a SETUP message having the same NCCI indication which is forwarded, in turn to transit node #3 (reference 90), transit node #4 (reference 92) and the destination node (reference 94).). In response, the destination node generates a CONNECT message which is forwarded to transit node #4 (reference 96), transit node #3 (reference 98) and the source user (reference 100) (Rochberger, col. 11, lines 40-49).

As seen from the above excerpt, both the primary and the redundant (secondary) paths are used. Accordingly, Rochberger does not disclose the secondary connection not using network bandwidth during the normal mode. In fact, since Rochberger teaches that both paths must be used, Rochberger effectively teaches away from the claimed invention.

3. Rochberger does not disclose a switching element to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

Rochberger merely discloses that the source node attempts to calculate a secondary (redundant) path from the source node to the destination node (Rochberger, col. 14, lines 40-43). Therefore, there is no switching element to switch the connectivity from the primary connection to a secondary connection, or to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

In the Final Office Action, the Examiner states that at the time of link break, a state machine in the end switches is triggered which causes each Rx data to be rerouted over the redundant path that was previously established. The Examiner then states that the Rx data that is loped back is then transmitted as Tx data over the redundant path (Rochberger, col. 16, lines 56-60). The Examiner then concludes that Rochberger teaches a switch element to switch connectivity from the primary connection to the secondary connection, and to connect the loop back path to the primary during the normal mode and to the secondary connection when there is a failure condition at the primary connection (Final Office Action, page 6, lines 20-22; page 7, lines 1-6). Applicant respectfully disagrees.

Rochberger merely discloses the Rx data to be rerouted over the redundant path (Rochberger, col. 16, lines 56-58), not to connect the loop back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection. Since Rochberger does not disclose a loop back path, cannot disclose a switching element to connect a loop back path to either the primary connection or the secondary connection.

Furthermore, Rochberger merely discloses establishing switched virtual circuits. Rochberger merely discloses configuring the hardware for loopback operation between a destination node and a source node. A destination node configures its hardware for loopback operation in response to a RESTORE_SETUP message (Rochberger, col. 14, lines 22-24). A source node programs its hardware to support loop back in response to the RESTORE_CONFIRM message (Rochberger, col. 14, lines 38-40). Accordingly, the loop-back method does not connect to the primary connection or the secondary connection.

Moreover, the path 313 in Rochberger merely shows that the data that would be output to output port 316 is now looped back to the switching fabric, at a similar point as data input to input port 318 (Rochberger, col. 16, lines 30-32). In contrast, in the present invention, the loop-back path is connected to the primary connection during normal mode and to secondary connection when there is a failure condition at the primary connection.

In the Final Office Action, the Examiner contends that by directing the data, the path the data travels for loop back becomes a loop back path. The Examiner then concludes that teaches the loop back path being connected to the primary during the normal mode and to the secondary connection when there is a failure condition at the primary connection (Final Office Action, page 7, lines13-18). Applicant respectfully disagrees. As discussed above, Rochberger merely discloses the data being returned back to the end nodes. This is shown as the dotted lines 290 and 292 in Figure 15. There is only one single line connecting the end (source) node 14 and the transit node # 1, or one single line connecting the end (destination) node 20 and the transit node # 2. Such a single line does not represent a loop back path that connects to the secondary connection when there is a failure at the primary connection. In fact, that line is (still) connected to the primary path when there is a failure at the primary path. When there is a link break, the path connected from the end node 14 (or 20) to the corresponding transit node 16 (or 18) remains connected to the primary path.

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Vergegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the...claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). Since the Examiner failed to show that Rochberger teaches or discloses any one of the above elements, the rejection under 35 U.S.C. §102 is improper.

Therefore, Applicant believes that independent claims 1, 11, 21, 31, and 41 and their respective dependent claims are distinguishable over the cited prior art references.

**B. Claims 3-5, 9, 10, 13-15, 19, 20, 23-25, 29, 30, 33-35, 39, 40, 43-45, 49, and 50 Are Not Obvious over Rochberger.**

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP §2143, p. 2100-126 to 2100-130 (8th Ed., Rev. 5, May 2006).* Applicants respectfully contend that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

Furthermore, the Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), stated: "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." MPEP 2141. In *KSR International Co. vs. Teleflex, Inc.*, 127 S.Ct. 1727 (2007) (Kennedy, J.), the Court explained that "[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the

known elements in the fashion claimed by the patent at issue." The Court further required that an explicit analysis for this reason must be made. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR 127 S.Ct.* at 1741, quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). In the instant case, Applicant respectfully submits that there are significant differences between the cited references and the claimed invention and there is no apparent reason to combine the known elements in the manner as claimed, and thus no *prima facie* case of obviousness has been established.

Rochberger discloses a method of path restoration in an ATM network utilizing point to point switched virtual circuits as discussed above.

Rochberger, taken alone or in any combination, does not disclose, suggest, or render obvious, at least one of (1) a loop-back path to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection, the primary connection carrying the user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; (2) a switching element coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection; (3) the failure condition is detected by a network monitor, as recited in claims 3, 13, 23, 33, and 43; (4) a re-route handler coupled to switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection between the first and second nodes, as recited in claims 4, 14, 24, 34, and 44; and (5) the switching element switches the connectivity based on the connectivity status provided by the network monitor, as recited in claims 5, 15, 25, 35, and 45..

As discussed above, Rochberger does not disclose or suggest elements (1) and (2) above. Therefore, a combination of Rochberger with any other references, including official notice or inherency, in rejecting claims 3-5, 9, 10; 13-15, 19, 20; 23-25, 29, 30; 33-35, 39, 40; and 43-45, 49, and 50, which indirectly depend on claims 1, 11, 21, 31, and 41, respectively, is improper.

Furthermore, the Examiner's arguments regarding the combination are flawed as follows.

Regarding claims 3, 13, 23, 33, and 43, the Examiner contends that "[t]o perform a detection function, it is imperative that some kind of network monitor is provided." (Final Office Action, page 4, paragraph number 4). Applicant respectfully disagrees. Detection and monitoring are two separate functions. One may be performed without the other. Apparently, the Examiner bases the rejections on the theory of inherency. However, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 193). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). Here, as the Examiner points out, Rochberger does not disclose a network monitor. The Examiner has not provided a basis in fact and/or technical reasoning to support the determination that the use of network monitor necessarily flows from the teachings of Rochberger.

Regarding claims 4, 14, 24, 34, and 44, the Examiner contends that Rochberger teaches the transit node #1 including the ports 316 and 318 detecting the break in connection (Final Office Action, page 4, paragraph number 4). Applicant respectfully disagrees. Rochberger merely discloses that the break is detected by transit node #1 very quickly since the break is detected by hardware rather than software (Rochberger, col. 16, lines 19-22). A break detection by hardware is not a re-route handler. A hardware break detection merely detects a break, it does not handle the re-route based on a connectivity status.

Regarding claims 5, 15, 25, 35, and 45, the Examiner merely states that it would have been obvious for one of ordinary skill in the art to specifically include a network monitor to provide the connectivity status for the connectivity switching operation (Final Office Action, page 5, first paragraph). Applicant respectfully disagrees and submits that the Examiner's contention is erroneous. Since the Examiner does not offer any evidence or support for the contention, the Examiner apparently bases the rejections on the theory of inherency. Applicant submits that the Examiner's rejection on inherency is improper. As discussed above, the Examiner has not provided a basis in fact and/or technical reasoning to support the determination that the use of a network monitor necessarily flows from the teachings of Rochberger.

Regarding claims 6, 16, 26, 36, and 46, as discussed above in the 102 rejection, Rochberger discloses that both the primary path and the redundant (secondary) paths are used during a call. Accordingly, Rochberger does not disclose, suggest, or render obvious the secondary connection does not carry user connections during the normal mode. In fact, by teaching that both paths must be used in setting the call, Rochberger effectively teaches away from the claimed invention.

In the Final Office Action, the Examiner contends that in Rochberger, the break detection result indicates a connectivity status, and the break condition result indicates a failure condition, and therefore, the connectivity status indicates the failure condition (Final Office Action, page 8, lines 6-8). Applicant respectfully disagrees. Rochberger merely discloses that the transit nodes # 1 and #2 detect the break (Rochberger, col. 15, lines 58-60), not a network monitor. Rochberger explicitly teaches that the break is detected by hardware rather than software (Rochberger, col. 16, lines 19-21), indicating that this detection is performed locally at the transit nodes. Therefore, it is not performed by a network monitor as recited in claims 3, 13, 23, 33, and 43. Furthermore, since it is detected locally by hardware only, it cannot be an OAM monitor or a call release procedure, as recited in claims 9, 19, 29, 39, and 49.

There is no motivation to combine Rochberger with any other references. There is no teaching or suggestion that a network monitor or a re-route handler is present. Rochberger, read as a whole, does not suggest the desirability of using a network monitor or a re-route handler. For the above reasons, the rejections under 35 U.S.C. §103(a) are improperly made.

The Examiner failed to establish a prima facie case of obviousness and failed to show there is teaching, suggestion, or motivation to combine the references. When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) Reasonable expectation of success is the standard with which obviousness is determined. Hodosh v. Block Drug Col, Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). "When determining the patentability of a claimed invention which combined two known elements, 'the question is whether there is something in the prior art as a whole suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, 974 F.2d 1309, 1312 (Fed. Cir. 1992), 24 USPQ2d 1040; Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ (BNA) 481, 488 (Fed. Cir. 1984). To defeat patentability based on obviousness, the suggestion to make the new product having the claimed characteristics must come from the prior art, not from the hindsight knowledge of the invention. Interconnect Planning Corp. v. Feil, 744 F.2d 1132, 1143, 227 USPQ (BNA) 543, 551 (Fed. Cir. 1985). To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the Examiner to show a motivation to combine the references that create the case of obviousness. In other words, the Examiner must show reasons that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the prior elements from the cited prior references for combination in the manner claimed. In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1996), 47 USPQ 2d (BNA) 1453. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973. (Bd.Pat.App.&Inter. 1985). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Furthermore, although a prior art device "may be

capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." In re Mills 916 F.2d at 682, 16 USPQ2d at 1432; In re Fritch, 972 F.2d 1260 (Fed. Cir. 1992), 23 USPQ2d 1780.

Moreover, the Examiner failed to establish the factual inquires in the three-pronged test as required by the *Graham* factual inquires. There are significant differences between the cited references and the claimed invention as discussed above. Furthermore, the Examiner has not made an explicit analysis on the apparent reason to combine the known elements in the fashion in the claimed invention. Accordingly, there is no apparent reason to combine the teachings of Rochberger and any other references, including official notice or inherency.

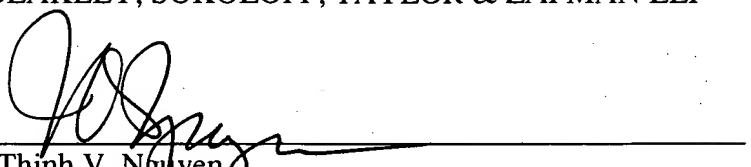
In the present invention, the cited references do not expressly or implicitly disclose any of the above elements. In addition, the Examiner failed to present a convincing line of reasoning as to why a combination of Rochberger and any other references, including official notice or inherency, is an obvious application of re-routing connections using redundant path connections and loopbacks, or an explicit analysis on the apparent reason to combine Rochberger and any other references, including official notice or inherency, in the manner as claimed.

Therefore, Applicant believes that independent claims 1, 11, 21, 31, and 41 and their respective dependent claims are distinguishable over the cited prior art references.

## VIII. CONCLUSION

Applicant respectfully requests that the Board enter a decision overturning the Examiner's rejection of all pending claims, and holding that the claims satisfy the requirements of 35 U.S.C. §102(e) and 35 U.S.C. §103(a).

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: January 14, 2008 By 

Thinh V. Nguyen
Reg. No. 42,034
Tel.: (714) 557-3800 (Pacific Coast)

12400 Wilshire Boulevard, Seventh Floor
Los Angeles, California 90025

## IX. CLAIM APPENDIX

The claims of the present application which are involved in this appeal are as follows:

1. (previously presented) An apparatus for re-routing user connections between first and second nodes in a network switch, the apparatus comprising:

a loop-back path to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection, the primary connection carrying the user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

a switching element coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

2. (original) The apparatus of claim 1 wherein the loop-back path is one of a physical connection and a logical connection.

3. (previously presented) The apparatus of claim 1 wherein the failure condition is detected by a network monitor.

4. (original) The apparatus of claim 3 further comprising:

a re-route handler coupled to switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

5. (previously presented) The apparatus of claim 4 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor.

6. (previously presented) The apparatus of claim 1 wherein the secondary connection does not carry user connections during the normal mode.

7. (previously presented) The apparatus of claim 1 wherein the network switch is an asynchronous transfer mode (ATM) switch.

8. (original) The apparatus of claim 7 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

9. (previously presented) The apparatus of claim 3 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

10. (original) The apparatus of claim 9 wherein the primary and secondary connections have equal connection capacity.

11. (previously presented) A method for re-routing connections between first and second nodes in a network switch, the method comprising:

connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

connecting the loop-back path to the primary connection during the normal mode and to the secondary connection by a switching element when there is a failure condition at the primary connection.

12. (original) The method of claim 11 wherein the loop-back path is one of a physical connection and a logical connection.

13. (previously presented) The method of claim 11 wherein the failure condition is detected by a network monitor.

14. (original) The method of claim 13 further comprising:

controlling the switching element by a re-route handler based on a connectivity status between the first and second nodes provided by the network monitor, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

15. (original) The method of claim 14 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor

16. (previously presented) The method of claim 11 wherein the secondary connection does not carry user connections during the normal mode.

17. (previously presented) The method of claim 11 wherein the network switch is an asynchronous transfer mode (ATM) switch.

18. (original) The method of claim 17 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

19. (previously presented) The method of claim 13 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

20. (original) The method of claim 19 wherein the primary and secondary connections have equal connection capacity.

21. (previously presented) A computer program product comprising:

a computer storage medium having computer program code embodied therein for re-routing connections between first and second nodes in a network switch, the computer program product having:

computer readable program code for connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

computer readable program code for connecting the loop-back path to the primary connection during the normal mode and to the secondary connection by a switching element when there is a failure condition at the primary connection.

22. (original) The computer program product of claim 21 wherein the loop-back path is one of a physical connection and a logical connection.

23. (original) The computer program product of claim 22 wherein the failure condition is detected by a network monitor.

24. (original) The computer program product of claim 23 further comprising:

computer readable program code for controlling the switching element by a re-route handler based on a connectivity status between the first and second nodes provided by the network monitor, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

25. (original) The computer program product of claim 24 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor.

26. (previously presented) The computer program product of claim 21 wherein the secondary connection does not carry user connections during the normal mode.

27. (previously presented) The computer program product of claim 21 wherein the network switch is an asynchronous transfer mode (ATM) switch.

28. (original) The computer program product of claim 27 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

29. (previously presented) The computer program product of claim 23 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

30. (original) The computer program product of claim 29 wherein the primary and secondary connections have equal connection capacity.

31. (previously presented) A system comprising:

first and second nodes to carry user connections in a network switch; and

a circuit coupled to the first and second nodes to re-route the user connections between first and second nodes, the circuit comprising:

a loop-back path to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection, the primary connection carrying the user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

a switching element coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

32. (original) The system of claim 31 wherein the loop-back path is one of a physical connection and a logical connection.

33. (previously presented) The system of claim 31 wherein the failure condition is detected by a network monitor.

34. (original) The system of claim 33 wherein the circuit further comprises:

a re-route handler coupled to the switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

35. (original) The system of claim 34 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor.

36. (previously presented) The system of claim 31 wherein the secondary connection does not carry user connections during the normal mode.

37. (previously presented) The system of claim 31 wherein the network switch is an asynchronous transfer mode (ATM) switch.

38. (original) The system of claim 37 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

39. (previously presented) The system of claim 33 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

40. (original) The system of claim 39 wherein the primary and secondary connections have equal connection capacity.

41. (previously presented) An apparatus for re-routing connections between first and second nodes in a network switch, the apparatus comprising:

means for connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

means for connecting the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

42. (previously presented) The apparatus of claim 41 wherein the loop-back path is one of a physical connection and a logical connection.

43. (previously presented) The apparatus of claim 41 wherein the failure condition is detected by a network monitor.

44. (previously presented) The apparatus of claim 43 further comprising:

means for controlling the switching by a re-route handler based on a connectivity status between the first and second nodes provided by the network monitor, the

connectivity status indicating the failure condition at the primary connection between the first and second nodes.

45. (previously presented) The apparatus of claim 44 wherein the means for switching switches the connectivity based on the connectivity status provided by the network monitor.

46. (previously presented) The apparatus of claim 41 wherein the secondary connection does not carry user connections during the normal mode.

47. (previously presented) The apparatus of claim 41 wherein the network switch is an asynchronous transfer mode (ATM) switch.

48. (previously presented) The apparatus of claim 47 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

49. (previously presented) The apparatus of claim 43 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

50. (previously presented) The apparatus of claim 49 wherein the primary and secondary connections have equal connection capacity.

## XI. EVIDENCE APPENDIX

None

## XII. RELATED PROCEEDINGS APPENDIX

None